

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-9 (Canceled).

Claim 10 (Canceled).

Claim 11 (Canceled).

Claims 12-20 (Canceled).

Claims 21-28 (Canceled).

Claims 29-45 (Canceled).

46. (Amended) ~~The turbine as claimed in claim 45,~~ A turbine having multiple turbine stages, first and second turbine stages comprising:

a wheel having sixty broach slots, each one of said broach slots having an interleaved system of fillets and tangs; and

a plurality of buckets each having a corresponding interleaved system of fillets and tangs so that said plurality of buckets can be fitted, one to one, into said sixty broach slots on said wheel;

wherein said interleaved system of fillets and tangs on said buckets and broach slots act to reduce stresses acting on said fitted buckets and broach slots, the fillets and

tangs of said interleaved system of fillets and tangs each being formed by a combination of curved and straight surfaces;

wherein for each one of said plurality of buckets the distance from the bottom of the bottom most tang to the upper most straight portion of the upper most fillet is 1.9836 inches;

wherein for each one of said plurality of buckets the distance from the bottom of the bottom most tang to a first intersection point of tangent lines drawn along pressure faces of the tang adjacent to the bottom most tang is 0.8429 inches;

wherein for each one of said plurality of buckets the distance from the bottom of the bottom most tang to a second intersection point of tangent lines drawn along pressure faces of the upper most tang is 1.2588 inches.

47. (Previously Presented) The turbine as claimed in claim 46, wherein for each one of said plurality of buckets the distance from the bottom of the bottom most tang to a point defined by the intersection of a line through said first and second intersection points and a tangent line along an upper straight surface of the bottom most tang is 0.4177 inches.

Claims 48-49 (Canceled).

50. (Previously Presented) The turbine as claimed in claim 46, wherein for each one of said plurality of buckets the angle between the upper most straight portion

of the upper most fillet and the upper most straight portion of the upper most tang is 50 degrees.

51. (Previously Presented) The turbine as claimed in claim 47, wherein for each one of said plurality of buckets the angle between the upper most straight portion of the upper most fillet and the upper most straight portion of the upper most tang is 50 degrees.

Claims 52-53 (Canceled).

54. (Amended) ~~The turbine as claimed in claim 53,~~ A turbine having multiple turbine stages, first and second turbine stages comprising:
a wheel having sixty broach slots, each one of said broach slots having an interleaved system of fillets and tangs; and
a plurality of buckets each having a corresponding interleaved system of fillets and tangs so that said plurality of buckets can be fitted, one to one, into said sixty broach slots on said wheel;
wherein said interleaved system of fillets and tangs on said buckets and broach slots act to reduce stresses acting on said fitted buckets and broach slots, the fillets and tangs of said interleaved system of fillets and tangs each being formed by a combination of curved and straight surfaces;
wherein below the uppermost tang on each of said broach slots there is a fillet having a radius of curvature of 0.0959 inches;

wherein above the bottom most tang on each of said broach slots there is a fillet having a radius of curvature of 0.1037 inches;

wherein below the bottom most tang on each of said broach slots there is a compound fillet having a first radius of curvature of 0.1248 inches and a second radius of curvature of 0.3822 inches, the first radius of curvature being measured from two points equally offset 0.0327 inches from either side of a center line bisecting each of said broach slots and at a distance of 0.3852 inches from the bottom of said compound fillet, and the second radius of curvature being measured from the center line bisecting each of said broach slots at a distance of 0.5616 inches from the bottom of said compound fillet.

57. (Amended) ~~The turbine as claimed in claim 56,~~ A turbine having multiple turbine stages, first and second turbine stages comprising:

a wheel having sixty broach slots, each one of said broach slots having an interleaved system of fillets and tangs; and

a plurality of buckets each having a corresponding interleaved system of fillets and tangs so that said plurality of buckets can be fitted, one to one, into said sixty broach slots on said wheel;

wherein said interleaved system of fillets and tangs on said buckets and broach slots act to reduce stresses acting on said fitted buckets and broach slots, the fillets and tangs of said interleaved system of fillets and tangs each being formed by a combination of curved and straight surfaces;

wherein for each one of said broach slots the distance from the bottom of the bottom most fillet to the upper most straight portion of the upper most tang is 1.9836 inches;

wherein for each one of said broach slots the distance from the bottom of the bottom most fillet to a first intersection point of tangent lines drawn along pressure faces of the fillet adjacent to the bottom most fillet is 0.8433 inches;

wherein for each one of said broach slots the distance from the bottom of the bottom most fillet to a second intersection point of tangent lines drawn along pressure faces of the upper most fillet is 1.2592 inches.

58. (Previously Presented) The turbine as claimed in claim 57, wherein for each one of said broach slots the distance from the bottom of the bottom most fillet to a point defined by the intersection of a line through said first and second intersection points and a tangent line along an upper straight surface of the bottom most fillet is 0.4181 inches.

Claims 59-60 (Canceled).

61. (Previously Presented) The turbine as claimed in claim 57, wherein for each one of said broach slots the angle between the upper most straight portion of the upper most tang and the upper most straight portion of the upper most fillet is 50 degrees.

62. (Previously Presented) The turbine as claimed in claim 58, wherein for each one of said broach slots the angle between the upper most straight portion of the upper most tang and the upper most straight portion of the upper most fillet is 50 degrees.